Amendments to the Specification:

Please replace the paragraph beginning on page 22, line 17, with the following rewritten paragraph:

Fig. 2 is a schematic diagram of a configuration of the vehicle integrated control system. The vehicle integrated control system is formed of three basic control units, i.e. a main control system ~~(1) as~~ 1a as the driving system control unit, a main control system ~~(2) as~~ 2a as the brake system control unit, and a main control system ~~(3) as~~ 3a as the steering system control unit.

Please replace the paragraph beginning on page 22, line 22, with the following rewritten paragraph:

At main control ~~system (1)~~ system 1a identified as the driving system control unit, a control target of the driving system corresponding to accelerator pedal manipulation is generated using the driving basic driver model, based on the accelerator pedal manipulation that is the sensed request of the driver, whereby the actuator is controlled. At main control ~~system (1),~~ system 1a, the input signal from the sensor to sense the accelerator pedal operated level of the driver (stroke) is analyzed using the drive basic model to calculate a target longitudinal acceleration Gx* (DRV0). The target longitudinal acceleration Gx* (DRV0) is corrected by a correction functional block based on the information from an adviser unit. Further, target longitudinal acceleration Gx* (DRV0) is arbitrated by the arbitration functional block based on the information from an agent unit. Further, the driving torque and braking torque is distributed with main control ~~system (2),~~ system 2a, and the target driving torque τx^* (DRV0) of the driving side is calculated. Further, the target driving torque τx^* (DRV0) is arbitrated by the arbitration functional block based on information from a supporter unit, and a target driving torque τx^* (DRV) is calculated. The power train (140, 220, 240) is controlled so as to develop this target drive torque τx^* (DRV).

Please replace the paragraph beginning on page 23, line 10, with the following rewritten paragraph:

At main control ~~system (2)~~ system 2a identified as the brake system control unit, a control target of the brake system corresponding to the brake pedal manipulation is generated

using the brake basic driver model based on the brake pedal manipulation that is the sensed request of the driver, whereby the actuator is controlled.

Please replace the paragraph beginning on page 23, line 14, with the following rewritten paragraph:

At main control ~~system (2),~~ system 2a, the input signal from a sensor to sense the brake pedal manipulated level (depression) of the driver is analyzed using a brake basic model to calculate a target longitudinal acceleration Gx* (BRK0). At main control ~~system (2),~~ system 2a, the target longitudinal acceleration Gx* (BRK0) is corrected by a correction functional block based on the information from the adviser unit. Further at main control ~~system (2),~~ system 2a, the target longitudinal acceleration Gx* (BRK0) is arbitrated by the arbitration functional block based on the information from the agent unit. Further at main control ~~system (2),~~ system 2a, the driving torque and the braking torque are distributed with main control ~~system (1),~~ system 1a, and the target braking torque τx^* (BRK0) of the braking side is calculated. Further, the target braking torque τx^* (BRK0) is arbitrated by the arbitration functional block based on the information from the support unit, and target braking torque τx^* (BRK) is calculated. The actuator of brake 560 is controlled so as to develop this target braking torque τx^* (BRK).

Please replace the paragraph beginning on page 23, line 27, with the following rewritten paragraph:

At main control ~~system (3)~~ system 3a identified as the steering system control unit, a control target of the steering system corresponding to the steering manipulation is generated using the steering brake basic driver model based on the steering manipulation that is the sensed request of the driver, whereby the actuator is controlled.

Please replace the paragraph beginning on page 24, line 3, with the following rewritten paragraph:

At main control ~~system (3),~~ system 3a, an input signal from the sensor to sense the steering angle of the driver is analyzed using a steering basic model to calculate a target tire angle. The target tire angle is corrected by the correction functional block based on the information from the adviser unit. Further, the target tire angle is arbitrated by the arbitration functional block based on the information from the agent unit. Further, the target tire angle is

arbitrated by the arbitration functional block based on the information from the supporter unit to calculate the target tire angle. The actuators of front steering device 500 and rear steering device 520 are controlled so as to develop the target tire angle.

Please replace the paragraph beginning on page 24, line 12, with the following rewritten paragraph:

Furthermore, the present vehicle integrated control system includes a plurality of processing units parallel to main control ~~system (1)~~ system 1a (driving system control unit), main control ~~system (2)~~ system 2a (brake system unit) and main control ~~system (3)~~ system 3a (steering system control unit), operating autonomously. The first processing unit is an adviser unit with an adviser function. The second processing unit is an agent unit with an agent function. The third processing unit is a support unit with a supporter function.

Please replace the paragraph beginning on page 26, line 5, with the following rewritten paragraph:

As shown in Fig. 2, the basic control units of main control ~~system (1),~~ system 1a, main control ~~system (2)~~ system 2a and main control ~~system (3),~~ system 3a, and the support unit of the adviser unit, agent unit, and supporter unit are all configured so as to operate autonomously. Main control ~~system (1)~~ system 1a is designated as the PT (Power Train) system. Main control ~~system (2)~~ system 2a is designated as the ECB (Electronic Controlled Brake) system. Main control ~~system (3)~~ system 3a is designated as the STR (Steering) system. A portion of the adviser unit and the portion of the agent unit are designated as the DSS (Driving Support System). A portion of the adviser unit, a portion of the agent unit, and a portion of the supporter unit are designated as the VDM (Vehicle Dynamics Management) system. Interruption control for intervention of control executed at main control ~~system (1),~~ system 1a, main control ~~system (2)~~ system 2a and main control ~~system (3)~~ system 3a from the agent unit (automatic cruise function) is conducted in the control shown in Fig. 2.

Please replace the paragraph beginning on page 26, line 17, with the following rewritten paragraph:

Main control ~~system (1)~~ system 1a (driving system control unit) will be described in further detail with reference to Fig. 3. Although the designation of the variable labels may differ in Figs. 3 and et seq., there is no essential difference thereby in the present invention. For example, the interface is designated as Gx* (acceleration) in Fig. 2 whereas the interface is designated as Fx (driving force) in Figs. 3 and et seq. This corresponds to F (force) = m (mass) × α (acceleration), where the vehicle mass (m) is not the subject of control, and is not envisaged of being variable. Therefore, there is no essential difference between Gx* (acceleration) of Fig. 2 and Fx (driving force) of Figs. 3 and et seq.

Please replace the paragraph beginning on page 27, line 10, with the following rewritten paragraph:

The dividing ratio of the driving torque and braking torque is calculated between main control ~~system (1)~~ system 1a that is the unit controlling the driving system and main control ~~system (2)~~ system 2a that is the unit driving the brake system. At main control ~~system (1)~~ system 1a corresponding to the driving unit side, Fxp3 of the driving system is calculated. FxB is output from distribution functional unit (4) to main control ~~system (2),~~ system 2a, and the driving availability and target value are output to agent unit (7) and dynamic (8) that is the supporter unit, respectively.

Please replace the paragraph beginning on page 27, line 21, with the following rewritten paragraph:

The elements shown in Fig. 3 are also present in main control ~~system (2)~~ system 2a and main control ~~system (3).~~system 3a. Since main control ~~system (2)~~ system 2a and main control ~~system (3)~~ system 3a will be described in further detail with reference to Figs. 5-6, description on main control ~~system (2)~~ system 2a and main control ~~system (3)~~ system 3a based on drawings corresponding to main control system (1) of Fig. 3 will not be repeated.

Please replace the paragraph beginning on page 27, line 26, with the following rewritten paragraph:

Figs. 4-6 represent the control configuration of main control ~~system (1),~~ system 1a, main control ~~system (2)~~ system 2a and main control ~~system (3).~~system 3a.

Please replace the paragraph beginning on page 27, line 28, with the following rewritten paragraph:

Fig. 4 shows a control configuration of main control ~~system (1).~~system 1a. Main control ~~system (1)~~ system 1a that covers control of the driving system is adapted by the procedures set forth below.

Please replace the paragraph beginning on page 29, line 10, with the following rewritten paragraph:

At distribution functional unit (4), distribution operation is mainly effected between main control ~~system (1)~~ system 1a that is the driving system control unit and main control ~~system (2)~~ system 2a that is the brake system control unit. Distribution functional unit (4) functions to output Fxp3 to arbitration functional unit (5) for the distribution towards the driving system that is the calculated result, and outputs FxB to main control ~~system (2)~~ system 2a for the distribution towards the brake system that is the calculated result. Further, drive availability Fxp_avail identified as the information of the driving power source that can be output from the power train which is the subject of control of main control ~~system (1)~~ system 1a is provided to automatic cruise functional unit (7) identified as the agent unit and dynamics compensation functional unit (8) identified as the supporter unit. The equation at this stage is represented by Fxp3 $\leftarrow$ f (Fxa, Fxp2), FxB = f (Fxa, Fxp2), using function f.

Please replace the paragraph beginning on page 30, line 5, with the following rewritten paragraph:

Fig. 5 represents the control configuration of main control ~~system (2).~~system 2a. Main control ~~system (2)~~ system 2a covering the control of the brake system is adapted by the procedure set forth below.

Please replace the paragraph beginning on page 31, line 11, with the following rewritten paragraph:

At distribution functional unit (4)', distribution operation is conducted between main control ~~system (1)~~ system 1a that is the driving system control unit and main control ~~system (2)~~ system 2a that is the brake system control unit. Functional distribution unit (4)' corresponds to distribution functional unit (4) of main control ~~system (1).~~system 1a. Distribution functional unit (4)' outputs Fxb3 to arbitration functional unit (5)' for distribution

towards the brake system that is the calculated result, and outputs FxP to main control ~~system (1)~~ system 1a for distribution towards the driving system that is the calculated result. Further, brake availability Fxb_avail identified as information that can be output from the brake that is the subject of control of main control ~~system (2)~~ system 2a is provided to automatic cruise functional unit (7) identified as the agent unit and dynamics compensation functional unit (8) identified as the supporter unit. The equation at this stage is represented by Fxb3 ← f (Fxba, Fxb2), FxP = f (Fxba, Fxb2), using function f.

Please replace the paragraph beginning on page 32, line 7, with the following rewritten paragraph:

Fig. 6 shows a control configuration of main control ~~system (3).~~system 3a. Main control ~~system (3)~~ system 3a covering control of the steering system is adapted to control by the procedure set forth below.

Please replace the paragraph beginning on page 36, line 14, with the following rewritten paragraph:

Thus, the vehicle integrated control system of the present embodiment operates as follows: at main control ~~system (1)~~ system 1a identified as the driving system control unit, accelerator pedal manipulation that is a request of a driver is sensed, and a control target of the driving system corresponding to the accelerator pedal manipulation is generated using a driving basic driver model, whereby the power train that is a drive actuator is controlled. At main control ~~system (2)~~ system 2a identified as the brake system control unit, brake pedal manipulation that is a request of the driver is sensed, and a control target of the brake system corresponding to the brake pedal manipulation is generated using a brake basic driver model, whereby the brake device that is the braking actuator is controlled. At main control ~~system (3)~~ system 3a identified as the steering system control unit, steering manipulation that is a request of the driver is sensed, and a control target of the steering system corresponding to the steering manipulation is generated using a steering basic driver model, whereby the steering device that is an actuator is controlled. These control units operate autonomously.

Please replace the paragraph beginning on page 38, line 15, with the following rewritten paragraph:

Four modifications of the embodiment of the present invention will be described hereinafter with reference to Figs. 7-10. All modifications have a control structure identical to that of Fig. 2 as to the feature of main control ~~system (1)~~ system 1a identified as the driving system control unit, main control ~~system (2)~~ system 2a identified as the brake system control unit, and main control ~~system (3)~~ system 3a identified as the steering system control unit.

Please replace the paragraph beginning on page 38, line 20, with the following rewritten paragraph:

Referring to Fig. 7 corresponding to the first modification, a distribution functional unit of main control ~~system (1)~~ system 1a and main control ~~system (2)~~ system 2a are gathered to be disposed in the supporter unit. Therefore, the supporter unit executes the dynamic compensation function and distribution function together.

Please replace the paragraph beginning on page 38, line 24, with the following rewritten paragraph:

Referring to Fig. 8 corresponding to a second modification, availability is output from the supporter unit, in addition to the aggregated disposition of the supporter unit of main control ~~system (1)~~ system 1a and main control ~~system (2),~~ system 2a, likewise the first modification. Therefore, the supporter unit executes the dynamics compensation function and distribution function together, and the driving availability, braking availability and steering availability are output to the agent unit.

Please replace the paragraph beginning on page 39, line 2, with the following rewritten paragraph:

Referring to Fig. 9 corresponding to a third modification, the arbitration function of main control ~~system (1)~~ system 1a and main control ~~system (2)~~ system 2a is gathered at the supporter unit, in addition to providing the availability to the agent function. Furthermore, the arbitration function is gathered at the supporter unit. Therefore, at the supporter unit, the dynamics compensation function and distribution function are executed together, and the

drive availability, braking availability and steering availability are provided to the agent unit to implement the arbitration function.